

# ARTICLE 13

**Table 8.03b**  
**Value of Runoff Coefficient**  
**(C) for Rational Formula**

Land Use	C	Land Use	C
<b>Business:</b>		<b>Lawns:</b>	
Downtown areas	0.70-0.95	Sandy soil, flat, 2%	0.05-0.10
Neighborhood areas	0.50-0.70	Sandy soil, ave., 2-7%	0.10-0.15
			0.15-0.20
<b>Residential:</b>		Sandy soil, steep, 7%	0.13-0.17
Single-family areas	0.30-0.50		0.18-0.22
Multi units, detached	0.40-0.60	Heavy soil, flat, 2%	0.25-0.35
Multi units, Attached	0.60-0.75	Heavy soil, ave., 2-7%	
Suburban	0.25-0.40	Heavy soil, steep, 7%	0.30-0.60
			0.20-0.50
<b>Industrial:</b>		<b>Agricultural land:</b>	
Light areas	0.50-0.80	Bare packed soil	0.30-0.60
Heavy areas	0.60-0.90	Smooth	0.20-0.50
		Rough	0.20-0.40
<b>Parks, cemeteries</b>	0.10-0.25	Cultivated rows	0.10-0.25
<b>Playgrounds</b>	0.20-0.35	Heavy soil no crop	
<b>Railroad yard areas</b>	0.20-0.40	Heavy soil with crop	0.15-0.45
<b>Unimproved areas</b>	0.10-0.30		0.05-0.25
		Sandy soil no crop	0.05-0.25
<b>Streets:</b>		Sandy soil with crop	0.10-0.25
Asphalt	0.70-0.95	Pasture	
Concrete	0.80-0.95	Heavy soil	0.15-0.45
Brick	0.70-0.85	Sandy soil	0.05-0.25
<b>Drives and walks</b>	0.75-0.85	Woodlands	0.05-0.25
<b>Roofs</b>	0.75-0.85		
<p><b>NOTE:</b> The designer must use judgement to select the appropriate C value within the range for the appropriate land use. Generally, larger areas with permeable soils, flat slopes, and dense vegetation should have lowest C values. Smaller areas with slowly permeable soils, steep slopes, and sparse vegetation should be assigned highest C values.</p> <p>Source: American Society of Civil Engineers</p>			

## SAMPLE VALUES FOR THE RATIONAL METHOD